

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please amend claims 1 and 13–16, cancel claims 12, 17, and 19, and add claims 23–28 so that a complete listing of claims reads as follows:

Listing of Claims:

1. (Currently amended) A method of manufacturing a system for treating a vascular condition, comprising:
 - providing a catheter, the catheter including an inflatable balloon;
 - positioning a stent over the balloon;
 - positioning a sheath over the stent;
 - crimping the stent onto the balloon prior to introducing an adhesive material within the sheath;
 - applying an adhesive material between an inner surface of the stent and an outer surface of the balloon;
 - heating the adhesive material to above a melting point of the adhesive material;
 - and
 - cooling the adhesive material to below a melting point of the adhesive material to provide an adhesive bond that retains the stent to the catheter during vascular delivery, wherein the stent is released from the balloon following inflation and deflation of the balloon at a treatment site-; and
 - removing the sheath after cooling the adhesive material.
2. (Original) The method of claim 1 wherein the stent is formed with openings in its walls.
3. (Original) The method of claim 1 wherein the adhesive material comprises a biocompatible material having a melting point below approximately one hundred sixty-five degrees Fahrenheit (165° F).

4. (Original) The method of claim 1 wherein the adhesive material comprises poly(ethylene oxide).
5. (Original) The method of claim 1 further comprising:
minimizing the balloon profile prior to positioning the stent over the balloon.
6. (Original) The method of claim 1 further comprising:
dispersing the adhesive material throughout a fluid prior to application of the adhesive material.
7. (Original) The method of claim 6 wherein approximately one gram (1 g) of adhesive material is dispersed throughout approximately one hundred cubic centimeters (100 cc) of fluid.
8. (Original) The method of claim 6 wherein approximately three grams (3 g) of adhesive material is dispersed throughout approximately twenty cubic centimeters (20 cc) of fluid.
9. (Original) The method of claim 6 further comprising:
after dispersing the adhesive material throughout the fluid, heating the adhesive material and fluid to dissolve the adhesive material in the fluid.
10. (Original) The method of claim 9 wherein heating the adhesive material and fluid to dissolve the adhesive material in the fluid comprises heating the adhesive material to a temperature in the range of ninety-five degrees Fahrenheit (95° F) to one hundred five degrees Fahrenheit (105° F) for a time duration of approximately ninety (90) minutes.
11. (Original) The method of claim 6 wherein the fluid comprises water.
12. (Cancelled)

13. (Currently amended) The method of claim ~~12~~ 1 wherein the sheath comprises a single tubular member.

14. (Currently amended) The method of claim ~~12~~ 1 wherein the sheath comprises a plurality of tubular members.

15. (Currently amended) The method of claim ~~12~~ 1 wherein applying an adhesive material between an inner surface of the stent and an outer surface of the balloon comprises introducing the adhesive material within the sheath such that the adhesive material flows between the inner surface of the stent and the outer surface of the balloon.

16. (Currently amended) The method of claim ~~15~~ 1 wherein introducing the adhesive material within the sheath comprises:

loading the adhesive material into a syringe having a fine needle;

inserting the needle within the sheath; and

injecting the adhesive material through the needle within the sheath such that the adhesive material coats at least a portion of the outer surface of the balloon.

17. (Cancelled)

18. (Original) The method of claim 1 further comprising:
crimping the stent onto the balloon prior to heating the adhesive material.

19. (Cancelled)

20. (Original) The method of claim 1 further comprising:
maintaining the balloon in a partially inflated configuration while heating and cooling the adhesive material.

21. (Original) The method of claim 1 wherein the adhesive material is heated at a temperature of approximately one hundred sixty-five degrees Fahrenheit (165° F)

22. (Original) The method of claim 1 wherein the adhesive material is heated for a time duration of approximately three minutes.

23. (New) A method of manufacturing a system for treating a vascular condition, comprising:

providing a catheter, the catheter including an inflatable balloon;

positioning a stent over the balloon;

dispersing approximately three grams (3 g) of an adhesive material throughout approximately twenty cubic centimeters (20 cc) of fluid;

applying the dispersed adhesive material between an inner surface of the stent and an outer surface of the balloon;

heating the adhesive material to above a melting point of the adhesive material;

and

cooling the adhesive material to below a melting point of the adhesive material to provide an adhesive bond that retains the stent to the catheter during vascular delivery, wherein the stent is released from the balloon following inflation and deflation of the balloon at a treatment site.

24. (New) A method of manufacturing a system for treating a vascular condition, comprising:

providing a catheter, the catheter including an inflatable balloon;

positioning a stent over the balloon;

dispersing an adhesive material throughout a fluid;

heating the adhesive material and fluid to dissolve the adhesive material in the fluid;

applying the dissolved adhesive material between an inner surface of the stent and an outer surface of the balloon;

heating the adhesive material to above a melting point of the adhesive material;

and

cooling the adhesive material to below a melting point of the adhesive material to provide an adhesive bond that retains the stent to the catheter during vascular delivery, wherein the stent is released from the balloon following inflation and deflation of the balloon at a treatment site.

25. (New) The method of claim 24 wherein the adhesive material comprises a biocompatible material having a melting point below approximately one hundred sixty-five degrees Fahrenheit (165° F).

26. (New) The method of claim 24 wherein the adhesive material comprises poly(ethylene oxide).

27. (New) A method of manufacturing a system for treating a vascular condition, comprising:

providing a catheter, the catheter including an inflatable balloon;

positioning a stent over the balloon;

dispersing an adhesive material throughout a fluid;

heating the adhesive material and fluid to a temperature in the range of ninety-five degrees Fahrenheit (95° F) to one hundred five degrees Fahrenheit (105° F) for a time duration of approximately ninety (90) minutes to dissolve the adhesive material in the fluid;

applying the adhesive material between an inner surface of the stent and an outer surface of the balloon;

heating the adhesive material to above a melting point of the adhesive material;

and

cooling the adhesive material to below a melting point of the adhesive material to provide an adhesive bond that retains the stent to the catheter during vascular delivery, wherein the stent is released from the balloon following inflation and deflation of the balloon at a treatment site.

28. (New) A method of manufacturing a system for treating a vascular condition, comprising:

providing a catheter, the catheter including an inflatable balloon;

positioning a stent over the balloon;

positioning a sheath over the stent;

loading an adhesive material into a syringe having a fine needle;

inserting the needle within the sheath;

injecting the adhesive material through the needle within the sheath such that the adhesive material coats at least a portion of the outer surface of the balloon;

heating the adhesive material to above a melting point of the adhesive material;

and

cooling the adhesive material to below a melting point of the adhesive material to provide an adhesive bond that retains the stent to the catheter during vascular delivery, wherein the stent is released from the balloon following inflation and deflation of the balloon at a treatment site.

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